

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION

UNITED STATES OF AMERICA	)	
	)	No. 11 CR 850
vs.	)	
	)	Hon. Sharon J. Coleman
	)	
WAYNE HILL	)	

**CONSOLIDATED POST-TRIAL MOTIONS**

COMES NOW the defendant, WAYNE HILL (“Mr. Hill”), by and through his attorney, Beau B. Brindley, and moves the court for a new trial pursuant to Rule 33 and motion for a judgment of acquittal pursuant to Rule 29.

**I. Motion For new trial**

Pursuant to Rule 33 of the Federal Rules of Criminal Procedure, Mr. Hill moves this Court to vacate his conviction and order a new trial due to (1) the Court’s failure to hold a *Daubert* hearing regarding Agent Raschke’s opinions on historical cell site analysis and the Court’s failure to exclude those opinions at trial; (2) the Court’s failure to grant Mr. Hill’s motions to suppress evidence; and (3) all other matters preserved by the objections and motions of counsel throughout the proceedings.

**A. Historical Cell Site Analysis**

The Court erred by not excluding the testimony of Agent Raschke regarding historical cell site analysis under Rule 702, *Daubert*, and Fed. R. Crim. P. 16. Raschke’s articulated purpose for historical cell site analysis was to determine the towers utilized by various identified phones for call activity on 11/19/2011. Agent Raschke further requested an analysis of the T-Mobile phone’s movement to the Milwaukee, WI area on 11/22/2011, and the Nextel phone’s movement to Indiana on 11/26/2011. The analysis conducted cannot and did not satisfy the

articulated purpose because it was based on flawed methodology and insufficient facts and data. Additionally, to the extent the testimony was admissible, the proffered expert notice was insufficient, as it did not explain the methodology used and the facts and data relied upon. Because historical cell analysis cannot reliably determine a phone's location, the testimony should be excluded.

Historical cell analysis, which the government purported to use here, should be distinguished from cell phone triangulation. Cell phone triangulation is the real-time tracking of cell phone location. This is a more reliable form of tracking than historical cell analysis. Real-time tracking utilizes the fact that cell phones are constantly scanning the area for signals from cell sites. By tracking the cell sites from which the phone is receiving a signal, it is possible to determine the location of the phone. That kind of tracking is not possible with historical cell analysis and Agent Raschke admitted as much during cross-examination.

Historical cell site analysis looks at phone records, which show what cell sites a particular cell phone connected to at the beginning and end of a call, in order to approximate location. Based on the particular cell sites a phone was connected to, experts attempt to determine geographic location. The basic idea is that in order to utilize a particular cell site, the phone must have been in the geographical area served by that particular site.

The analysis seems simple enough, but its integrity is entirely dependent on the proper determination of the service area of particular cell sites. Determining the service area is a much more daunting task. As admitted by Agent Raschke during trial, cell site coverage can be affected by maintenance or repairs being performed, the height of the cell tower, wattage output, weather, and a host of other factors.

If a handset is directly in front of, and with line of site to, the antenna for a given cell and with no other cells of greater or equivalent power close by, it would be

unlikely to select any other cell. This means that within the service area of a given cell, there will be regions where a phone could not be reasonably expected to initiate (or respond to) a call on any other cell. The location in question could be termed as being within the 'dominant' region of the cell. The 'dominant' areas of a cell in an urban environment will usually be very small in comparison with the total area over which the cell is able to provide service.

Elsewhere, the received signal strength of other cells will be closer to or supersede that of the cell in question. The effects of clutter (either by line of sight or the effects of localised interference, or 'fast fading') will mean that there may be marked differences of signal strength over very small distances. If there are other cells serving the area with similar signal strengths, the cell selected as serving by the handset may change frequently. This (usually much larger) region is termed a 'non-dominant' area.

A new cell will generally be selected if the received signal strength of that which it is camped on is less than that of another measured handover candidate for a specific period of time, so the cell selected at any point in time will be affected by the previously selected cell. Two phones at the same location could therefore camp on different cells, even if they have similar received signal strengths of the cells serving at that location.

Matthew Tart, *Historic cell site analysis – Overview of principles and survey methodologies*, Digital Investigation 8 185-186 (2012).

Agent Raschke's report indicated that "the best signal generally comes from the tower that is CLOSEST to the phone, or in its LINE OF SIGHT." He went on to state that "The tower with the best signal is the one the handset will use for service, this is the serving cell and will be used to make and receive calls." Finally, Agent Raschke claimed that "As a GENERAL RULE, most towers (depending on the environment) have a radius of approximately ONE or TWO MILES (greater or lesser distances are also common)." Exhibit A at 3 (emphasis in original). On cross examination, he admitted that this general rule was subject to significant exceptions.

Neither in his report nor in his testimony did Raschke explain how any of these conclusions were reached. Agent Raschke never disclosed what materials he relied upon to come to these conclusions or what if any tests or analyses have been performed. This type of testing is clearly available. See *United States v. Allums*, 08 CR 30 Dkt # 155 (D. Utah March 24, 2009)

(Government expert purchased a phone similar to the defendant's phone and put it in "engineering mode" and drove around the relevant neighborhoods to determine which cell site was providing signal).

Estimating the coverage area of radio frequency waves requires more than just training and experience, however, it requires scientific calculations that take into account factors that can affect coverage. Special Agent Raschke presented no scientific calculations and did not consider a variety of relevant factors. Although the call data records upon which he relied are undisputed, the link between those records and his conclusions is deficient.

*United States v. Evans*, 10 CR 747 at 11 (N.D. Ill August 29, 2012) (Lefkow, J.)

Because Agent Raschke failed to use procedures necessary to establish the coverage area of the towers about which he opined, he did not establish the reliability of his opinions. Consequently, a *Daubert* hearing should have been ordered and the opinions excluded. This case is factually indistinguishable from *United States v. Evans*, where Judge Lefkow excluded most of the very same opinions Raschke was allowed to present to the jury in Mr. Hill's case.

In some cases an approximation of cell site coverage may be sufficient (though an expert still would have to process a sufficient basis for a particular approximation). For instance, where historical cell site analysis is used to rebut an alibi defense. If a defendant claims that he was in Michigan but records show that his cell phone was used in Chicago during the relevant time frame, an approximation would likely be sufficient. The approximation could be off by 10 or 20 miles and it would still be relevant to prove that the call was not placed from Michigan.

This is a very different case. The government used this information to try and place the phone near the scene of the charged bank robbery and related areas. In the absence of reliable methods and sufficient facts and data about each relevant cell site and its identifiable coverage areas, this information should never have been presented to the jury. This case is not

unique. The information needed to make reliable determinations based on historical cell site analysis is absent in most cases. “Given the limitations of cell phone tower evidence, as demonstrated in the cases above, there is little reason for a [] judge to ever allow such evidence in front of a jury.” Imwinkleried, et al., *Judicature*, v.95, no.4, 2012 Jan-Feb, p.151-153. Under the facts of this case, Rule 702’s requirements of reliability and of sufficient facts and data were simply not met. Therefore, the Court should grant Mr. Hill’s motion for new trial, convene a *Daubert* hearing, and ultimately exclude Agent Raschke’s opinions.

### **B. Motion to Suppress**

Mr. Hill’s motion to suppress was litigated in detail during pretrial briefing. All of the arguments contained in this prior motions and responses are adopted here. Based on those arguments, the Court erred in denying Mr. Hill’s motions to suppress. Mr. Hill moves the Court to vacate his conviction, grant his motion for new trial and ultimately suppress the evidence obtained. In its opinion denying Mr. Hill’s motions to suppress, the district court made a finding that Lieutenant McKechnie had reasonable suspicion to conduct a *Terry* stop of Mr. Hill. However, in reaching this finding the district court relied on the observations of a casino slot attendant and casino employee, Danny Faulkner. R. 367 at 4. McKechnie’s testimony indicated that the observations of these individuals were never communicated to him. The casino personnel were not members of law enforcement and, therefore, their observations are irrelevant to the question of reasonable suspicion unless they are communicated to the officer. Hence, the court’s reliance on those observations was erroneous. Lieutenant McKechnie admitted that, before he approached Mr. Hill, all he was aware of was the claims of an anonymous casino guest. An anonymous tip cannot constitute reasonable suspicion. *Florida v. J.L.*, 529 U.S. 266,

270-71 (2000). on Therefore, Lieutenant Mckechnie's *Terry* stop of Mr. Hill was unjustified and the evidence should have been suppressed.

In addition, when evaluating Mr. Hill's testimony, the district court made a number of factual errors. First, the Court claimed that Mr. Hill testified the security officer Eugene Kasper took Mr. Hill's bag away from him, saw thousands of dollars in dye stained bills, and then returned the bag and the bulk of the money to him. R 368 at 5. This was not Mr. Hill's testimony. Mr. Hill testified that the bag was never taken completely from him. When Kasper picked up the bag, Mr. Hill testified that he grabbed it and tried to pull it away from him. He did not testify that Kasper willingly returned the bag to him and the district court's assertion to the contrary was not supported by the testimony.

The district court also erred by failing to take into account the significance of the inconsistencies between Eugene Kasper's report and McKechnie's testimony. Likewise the district court also erred in its failure to acknowledge the fact that Lieutenant McKechnie and security officer Kasper were unquestionably working together to investigate Mr. Hill. This was demonstrated by their tandem approach of Mr. Hill and their combined efforts to question him and examine the currency. Therefore, Kasper's act of knocking the money to the floor is sufficient to constitute a police action and cannot be excused simply because he worked for the casino. The district court's suggestion to the contrary was erroneous.

Due to these specific errors along with those preserved through prior oral argument and briefing, the denial of Mr. Hill's motions to suppress was erroneous and his motion for new trial on this basis should be granted.

## **II. Motion for Judgment of Acquittal**

When the evidence at trial is equally supportive of a theory of guilt and a theory of innocence, then a judgment of acquittal must be entered. *United States v. Rivera*, 775 F.2d 1559, 1561 (11th Cir. 1985). *United States v. Harris*, 942 F.2d 1125, 1129-30 (7th Cir.1991). In this case, as part of his defense, Mr. Hill's counsel posited the theory that Mr. Hill could have been paid by the actual bank robber to launder the dye stained currency he was caught with at the casino. In the end, the evidence at trial is actually more consistent with this theory than with the theory that Mr. Hill robbed the bank.

The evidence presented by the government amounted to evidence showing (1) the fact that Mr. Hill was caught with the dye stained currency in his possession and was seen turning in dye stained currency for clean currency at two casinos; (2) that Mr. Hill had more money after the bank robbery than before; and (3) that Mr. Hill's cellular telephone connected with a tower approximately 12 miles from the bank robbery after the bank robbery occurred; and (4) that Mr. Hill made statements about finding the money by the side of the road that were obviously not true. The fact that Mr. Hill possessed the money and was laundering it at casinos is undoubtedly consistent with having been paid to do so by the person who robbed the bank. Having more money after the bank was robbed than before was also consistent with having been paid by the bank robber to launder the money after the robbery happened. The fact that Mr. Hill made false statements about finding the money could be equally consistent with trying to protect himself or trying to protect the person who robbed the bank and paid him to launder the funds.

That leaves only the cell site evidence to tip the scales in support of a finding of guilty. But the cell site data failed to do that. The cell site data showed that Mr. Hill's phones were commonly connecting to certain towers in Waukegan when he was home. This happened on

multiple days not involving any allegation of robbery. The cell site data indicated that Mr. Hill had to be able to travel 55 miles from the credit union to Waukegan in just 40 minutes. That would require him to drive at an average speed of 90 to 100 miles an hour in Chicago traffic on the expressway. There is no evidence that such a feat was even possible. When faced with this argument all the government could say was that maybe he used a “magic carpet.” Because the ability to drive from the credit union to Mr. Hill’s home in the allotted time established by the cell site data seems veritably impossible, it becomes apparent that the evidence admitted at trial combines to support a theory of innocence more than the government’s theory of guilt. Consequently, a judgment of acquittal should be ordered.

WHEREFORE, Mr. Hill respectfully requests that this honorable Court grant his motion for acquittal pursuant to Rule 29 or, in the alternative, grant his motion for new trial pursuant to Rule 33.

Respectfully submitted

By: s/ Beau B. Brindley

LAW OFFICES OF BEAU B. BRINDLEY  
53 West Jackson Blvd.  
Suite 1410  
Chicago, IL 60604  
312-765-8878 (Phone)  
312-276-48040 (Fax)